a normal way of life. Complete understanding between partners is inherently necessary. Then, a loving unhurried sexual relationship can bring matchless contentment.

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## Advances in Bladder Rehabilitation

FOR SPINAL INJURY PATIENTS an ideal bladder is free from an indwelling catheter, infection and autonomic dysreflexia. He or she should be able to have adequate, easy voiding and a normal genitourinary tract. The use of intermittent catheterization in establishing a reflex bladder is successful in about 70 percent to 90 percent of patients. Prolonged intermittent catheterization (20 weeks or more) is expensive and frustrating for patients and is usually associated with a dysfunctional neurogenic bladder. Patients without a balanced bladder following intermittent catheterization are also prone to silent renal damage. All such failures usually are due to detrusor-sphincter dyssynergia or increased urethral resistance, or both. Increased urethral resistance can be due to bladder neck and posterior urethral fibrosis, urethral strictures or an enlarged prostate. Inadequate opening of the bladder neck and posterior urethra during voiding can also be due to bladder-bladder neck dyssynergia or bladder-external sphincter dyssynergia. Dyssynergia between bladder and bladder neck usually results from increased alpha adrenergic activity. This can be shown on cystometrographic and urethral pressure profile studies before and after intravenous administration of phentolamine. In such patients a rise in blood pressure during cystometrographic studies also occurs. Dyssynergia between detrusor (bladder) and external urethral sphincter (periurethral striated muscles) can be shown on simultaneous cystometrographic and periurethral striated electromyography. All high paraplegics (above T5) and quadriplegic persons whose conditions are complicated with dyssynergia usually also have autonomic dysreflexia. Urodynamic studies involving simultaneous cystometrographic and pelvic floor electromyographic studies, flow rates, urethral pressure profile and voiding cystourethrographic studies (radiologic) may lead to the diagnosis of urethral "plumbing" problems.

Transurethral external sphincterotomy and bladder neck incisions can relieve obstructive urethral pathology and provide adequate voiding in such patients. This leads to pronounced improvement in bladder configuration, relief from vesicoureteral reflux, amelioration of autonomic dysreflexia and also significant improvement in hydronephrotic renal pelvicalcyceal system. Routine urodynamic studies in patients with inadequate voiding could provide an early diagnosis of detrusor-sphincter dyssynergia and bladder neck obstructive problems and thereby make it possible to prevent urologic complications.

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